

Raspberry Pi Camera Network

Keaton Kirkland

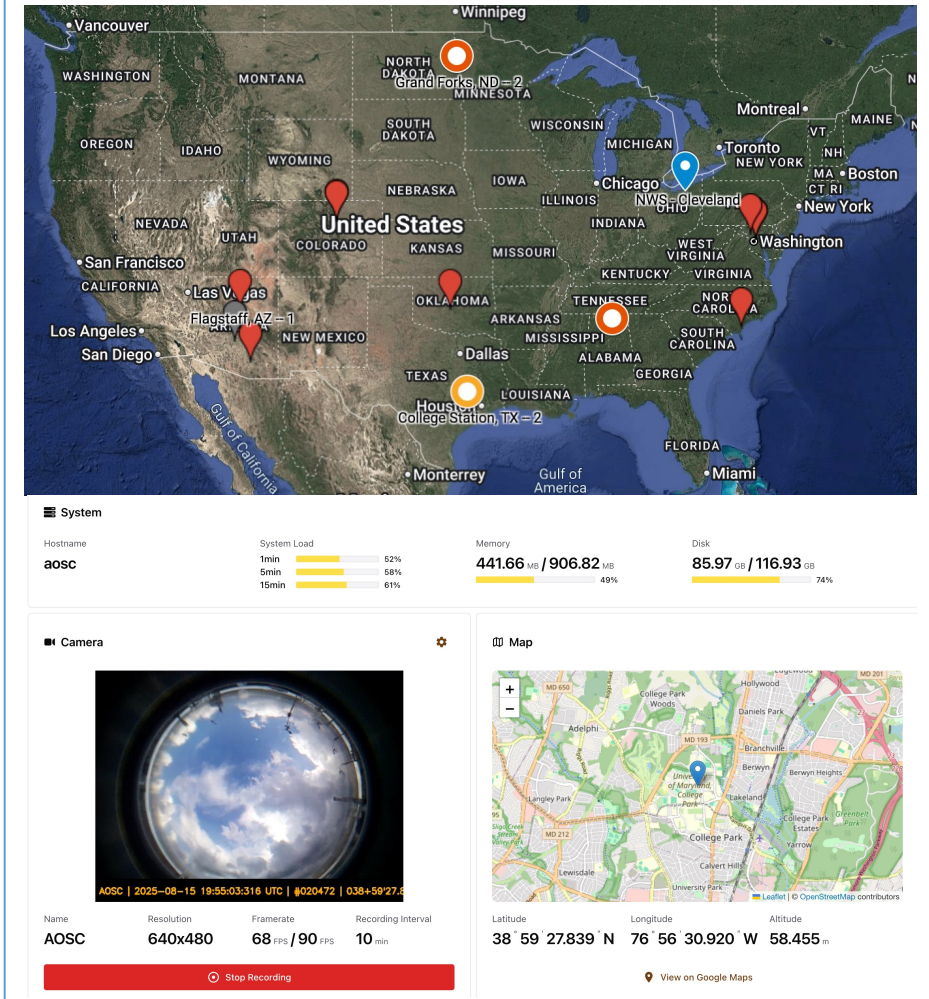
Mentor: Dr. Guangyang Fang

RPCN Objectives

- Validation of GOES-R Geostationary Lightning Mapper (GLM)
- Validation of DC Lightning Mapping Array (DCLMA)
- Provide a live stream for monitoring local lightning activity

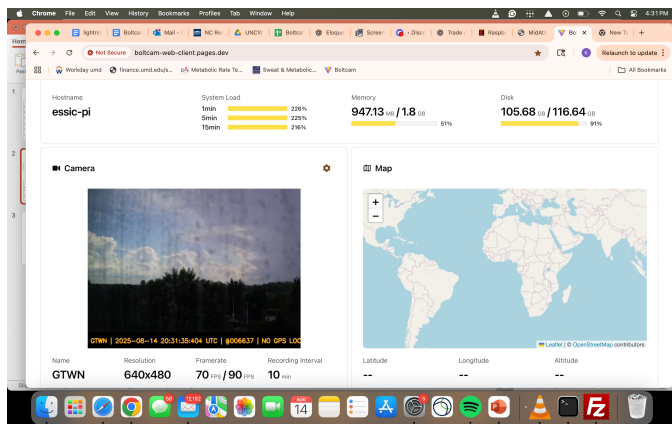
My Role

- Monitor new cameras within the network (UNCW, GTWN, DC-PI, ESSIC-WEST, ESSIC-SOUTH, OHIO-PI, ATL-UMD)
- Analyze videos to manually capture frames of lightning images
- Archived the real-time video feed for future reference



MY PROCESS

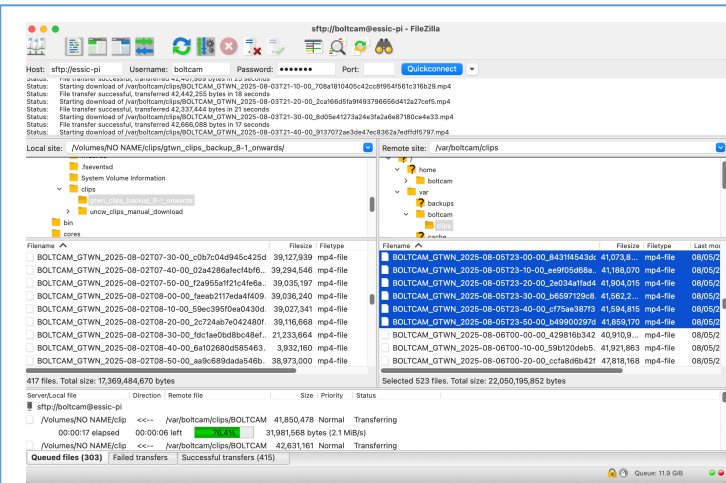
Boltcam Application



Video Processing - VLC



File Backups - Filezilla



<https://drive.google.com/drive/folders/1-5oaBEiY5c7KIYnHnavAUc7Liq8mZx2?usp=sharing>

QUICK STATS – UNCW and GTWN

UNCW

- 21 days of significant thunderstorms (6/13-8/14)
- 6 days prioritized for further analysis
- 2 days producing captured bolts
- 3 cloud-ground strikes
- Backed up from 06/06/2025 thru present

GTWN

- 26 days of significant thunderstorms (6/25-8/14)
- 10 days prioritized for further analysis
- 2 days producing captured bolts
- 7 cloud-ground strikes
- 7 cloud-cloud strikes and/or glare

